

In 1–3, decide whether the relationship is reflexive, symmetric, or transitive. When the relationship does not have one of these properties give a counter example.

- Set: A box of doughnuts
Relationship: “tastes as good as”
Example: Vanilla cream filled tastes as good as chocolate covered.
- Set: The positive integers
Relationship: “is greater than or equal to”
Example: 43 is greater than or equal to 6.
- Set: The children in the Lopez family
Relationship: “is older than”
Example: Pedro is older than Juanita.

In 4–9, use the property to complete the statement.

- Addition Property of Equality: If $AB = 5$, then $10 + AB = \boxed{?}$
- Multiplication Property of Equality: If $m\angle C = 30^\circ$, then $\boxed{?}(m\angle C) = 15^\circ$
- Reflexive Property of Congruence: $\overline{AF} \cong \boxed{?}$
- Symmetric Property of Congruence: If $\angle DCF \cong \angle MJC$, then $\boxed{?}$
- Transitive Property of Equality: If $YZ = BD$ and $\boxed{?} = JK$, then $\boxed{?}$
- Substitution Property of Equality: If $MN = 3$, then $5(MN) = \boxed{?}$

In 10 and 11, decide whether the statement is true or false. If it is false, give a counter example.

- If a relationship is symmetric and transitive, then it is reflexive.
- If a relationship is reflexive and transitive, then it is symmetric.

- Give a reason for each statement.

Given: $\angle AOC$ and $\angle BOD$ are straight angles

Prove: $\angle AOB \cong \angle COD$

Statements	Reasons
1. $\angle AOC$ and $\angle BOD$ are straight angles	1. $\boxed{?}$
2. $\angle AOC \cong \angle BOD$	2. $\boxed{?}$
3. $m\angle AOC = m\angle BOD$	3. $\boxed{?}$
4. $m\angle AOB + m\angle BOC = m\angle AOC$	4. $\boxed{?}$
5. $m\angle BOC + m\angle COD = m\angle BOD$	5. $\boxed{?}$
6. $m\angle AOB + m\angle BOC = m\angle BOC + m\angle COD$	6. $\boxed{?}$
7. $m\angle AOB = m\angle COD$	7. $\boxed{?}$
8. $\angle AOB \cong \angle COD$	8. $\boxed{?}$

